

REMARKS

Claims 1-12 are pending in the above-identified application.

Rejection under 35 USC 103(a)

Claims 1-12 stand rejected under 35 USC 103(a) as being unpatentable over Yamagishi '563.

This rejection respectfully is traversed.

In support of the rejection, the Examiner takes the following position at page 3 of the Action:

"Applicant argues that Yamagishi reference does not disclose or suggest a golf ball diameter greater than 42.7 mm. However, applicant is solely relying on the examples for diameter and not the entire specification. As shown in the rejection above, Yamagishi discloses example with a diameter of 42.7 mm. The specification also discloses an upper limit for the ball diameter. The core has a diameter from 25 to 41 mm and each cover layer has a thickness from 0.3 to 2.5 mm, which gives an upper limit for the golf ball diameter of 51mm. Although examples are not shown for values other than 42.7, which is the lowest value allowed by the USPGSA, larger values are clearly suggested and disclosed."

The Examiner also states at page 2 of the Action that Yamagishi '563 discloses a golf ball having a core 1 with a maximum diameter of 46 mm (col. 3, lines 53-55; col. 4, lines 34-36).

The Examiner simply takes the maximum end point for all of the above dimensions in order to arrive at a maximum diameter of 46-51 mm which is asserted to be within the claimed range.

Based on the calculations described below, it is demonstrated that it is not possible to simply take the maximum diameter and layer thickness end points to obtain a maximum diameter of 46-51 mm consistent with the Yamagishi '563 disclosure.

Although one may simply take the maximum end points of the various diameter and thickness ranges for the core and outer layers described in Yamagishi '563, the resulting golf ball would fail to satisfy the maximum weight requirements of the Rules of Golf (R&A) of 45.93 grams as noted at column 1, lines 21-24 of Yamagishi '563 due to the specific gravity requirements of the golf ball of Yamagishi '563.

More specifically, the following calculations show that any attempt to use the maximum diameter/thickness range end points of Yamagishi '563 results in a golf ball having a weight well over the maximum weight limit for the Rules of Golf mentioned in Yamagishi '563.

**Diameter/Thickness Dimensions  
of Yamagishi '563**

Core of maximum diameter of 41 mm (or 2.05 cm radius)

Inner layer of 2.5 mm thickness (or radius of 2.3 cm when combined with core diameter of 41 mm)

Outer layer of thickness of 2.5 mm (or radius of 2.55 cm when combined with 41 mm core/2.5 mm inner layer)

### Ball Volume Calculations

Core = 36.9 cc

Core plus inner layer = 50.97 cc

Core plus inner layer plus outer layer = 69.46 cc

Volume of inner layer = 14.88 cc

Volume of outer layer = 18.49 cc

### Calculation of Weight of Golf Ball

Assuming the minimum specific gravity for the core of 1.00 (col. 2, lines 64-65), the minimum specific gravity for the inner layer of 0.9 (col. 4, lines 28-30), and the minimum specific gravity for the outer layer of 1.10 (col. 4, lines 1-3), the weight of a golf ball having the above-noted dimensions may be calculated using the following equation:

$$(1.00)(36.09) + (0.90)(14.88) + (1.10)(18.49) = \underline{69.82 \text{ grams}}.$$

Thus, the result of 69.82 grams is 52% over the maximum limit of 45.93 grams mentioned in Yamagishi '563. In fact, even if each of the inner layer and outer layer thicknesses are reduced to 1.25 mm, the resulting total golf ball weight is about 50.4 grams which is still well over the maximum allowed limit. Consequently, the core, inner layer and outer layer dimensions cannot be chosen independently of the specific gravity features in order to arrive at an appropriate golf ball weight.

The suggestion that Yamagishi '563 discloses a golf ball having a maximum diameter of 51 mm is accordingly inconsistent with the stated specific gravity requirements and maximum golf ball weight of 45.93 grams.

Based on the above-noted calculations based on the disclosure of Yamagishi '563, and in view of the additional distinctions between the present claims and Yamagishi '563 discussed below, it is submitted that this reference simply fails to disclose or suggest the present invention.

It is further submitted that Yamagishi '563 must be interpreted consistently and correctly as a prior art reference such that the maximum diameter and thickness range end points simply cannot readily be chosen. Any attempt to do otherwise is necessarily the result of an improper hindsight analysis of the reference in order to result in the claimed invention.

In fact, even if more intermediate dimensions are chosen as noted above, the golf ball weight limit may still be violated and be inconsistent with the remaining disclosure of Yamagishi '563. The calculations above also provide further evidence that a person skilled in the art must search throughout the disclosure of Yamagishi '563 without any adequate direction or suggestion provided by Yamagishi '563 to yield the claimed invention.

By way of further distinction, the present invention is directed to golf balls having a large diameter in combination with other properties, such as a moment of inertia, as recited in the present claims. As stated in the paragraph at the bottom of page 1 to the top of page 2 of the specification, golf balls having a diameter larger than the lower USGA diameter limit of 42.67 mm are: [1] generally not larger in diameter than 42.80 mm; and [2] exhibit higher air resistance leading to deceleration and shorter flight distance.

Surprisingly, the inventors of the present invention have discovered that a golf ball having a diameter as large as 43.0 mm or greater may be made according to the disclosure of the present application, and such a golf ball exhibits advantageously improved properties, including advantageously improved flight distance or "carry". This is clear from the discussion and experimental test results described at pages 12-20 of the present specification, as well as in Tables 1-4.

Yamagishi '563 is completely silent regarding a golf ball having a diameter greater than 42.70 mm. It is clear from a review of Yamagishi '563 that the reference describes golf balls having a diameter of equal to or just greater than the lower diameter limit of 42.67 mm required by "R & A" Rules of Golf. Yamagishi '563 fails to disclose or suggest any technique for designing larger

diameter golf balls having a minimum diameter of 43.0 mm in order to achieve flight distance properties comparable to and greater than the more common *smaller* golf ball design employing a diameter of 42.7 mm.

In this regard, the Examiner's attention is directed to Table 4 at page 19 of the present specification wherein Examples 1-6 all exhibit a greater flight distance or "carry" when compared to Comparative Example 1 which has a diameter of 42.7 mm. Since Yamagishi '563 fails to address any problems associated with air resistance or any other problems that arise in connection with designing a larger diameter golf ball having a diameter of at least 43.0 mm, the reference fails to provide any adequate suggestion to a person skilled in the art towards the present invention.

It is further noted that the mere fact that a reference, such as Yamagishi '563, can be modified (as attempted by the Examiner) does not render the resulting modification "obvious" unless the reference also suggests the desirability of the modification. *In re Mills*, 16 USPQ2d 1430 (Fed. Cir. 1990); MPEP 2143.0, Rev. 2, May 2004, page 2100-131. In addition, the fact that the claimed invention may be within the capabilities of one of ordinary skill in the art fails to be sufficient, by itself, to establish *prima facie* obviousness. *Ex parte Levengood*, 28 USPQ2d 1300, BPAI 1993; *In re Kotzab*, 55 USPQ2d 1313, 1318 (Fed. Cir. 2000). All of the

above-cited legal authority applies to the present situation, since Yamagishi '563 provides absolutely no suggestion whatsoever to use the largest thicknesses and diameters of the multiple layers in order to form a golf ball having a diameter of at least 43.0 mm within the range of the larger golf ball diameter of the present invention. Yamagishi '563 provides no examples of such an embodiment, and it is clear that Yamagishi '563 addresses no design issues in connection with designing a larger diameter golf ball.

In fact, any attempt to employ the upper end point of all of the thickness and diameter ranges of the multiple layers of the golf ball of Yamagishi '563 results in a golf ball having higher air resistance and shorter flight distance which would be a modification that would render the golf ball of Yamagishi '563 unsatisfactory for its intended purpose of achieving a greater flight distance property. Thus, Yamagishi '563 must be interpreted as failing to provide any adequate suggestion or motivation to employ such a modification in order to obtain the present invention. *In re Gordon*, 221 USPQ 1125 (Fed. Cir. 1194). Consequently, it is submitted that Yamagishi '563 fails to provide any adequate basis for asserting *prima facie* obviousness under appropriate applicable legal standards.

The rejection is thus without basis and should be withdrawn.

Appl. No. 10/622,568

The application is accordingly in condition for allowance, and an early indication of same earnestly is solicited.

If any questions arise regarding the above matters, please contact Applicant's representative, Andrew D. Meikle (Reg. No. 32,868), in the Washington Metropolitan Area at the phone number listed below.


If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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